Access DB# 133295

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Carol Chaney Examiner #: 72248 Date: 22 Sept
Art Unit: 1745 Phone Number ~~30~~ 571 272 1284 Serial Number: 09/890 529
Mail Box and Bldg/Room Location: Rem 6D 85 Results Format Preferred (circle): PAPER DISK E-MAIL
6 C81

If more than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

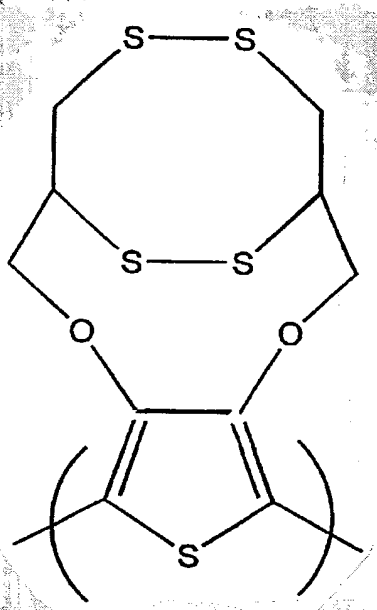
Title of Invention: Single Component sulfur based cathodes for lithium-ion batteries

Inventors (please provide full names): John Pope, Dan Buttry, Shannon White, Robert Corcoran

Earliest Priority Filing Date: Feb 1 1999

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Please search for the following polymer structure as a lithium ion cathode active material:



PDPT

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STAFF USE ONLY

	Type of Search		Vendors and cost where applicable	
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Searcher Location:	Structure (#)	2	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic		Dr.Link	
Date Completed: 9/24/04	Litigation		Lexis/Nexis	
Searcher Prep & Review Time: 30	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time: 46	Other		Other (specify)	

PTO-1590 (8-01)

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L1          4222 S POPE ?/AU
L2          1532 S CORCORAN ?/AU
L3         43710 S WHITE ?/AU
L4           126 S BUTTRY ?/AU
L5             1 S L1 AND L2 AND L3 AND L4
                 SEL L5 RN

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L6             8 S E1-E8

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L14              0 S L10 OR L11
L15              3 S L10 OR L11 FUL
                 SAV CHA529/A L15

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L10              STR
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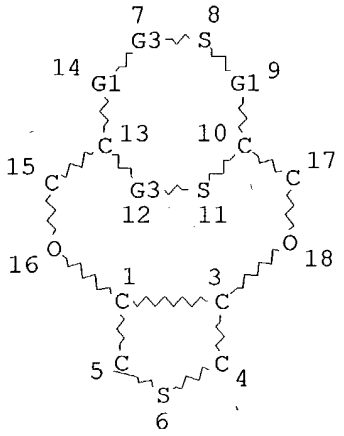
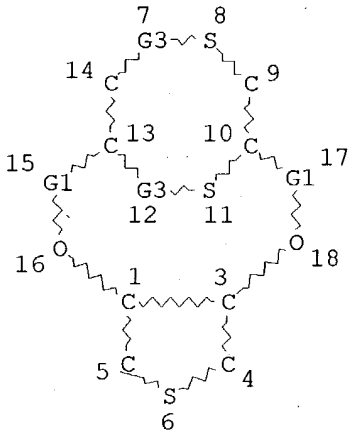


REP G1=(1-3) C
REP G3=(0-3) S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE
L11 STR



REP G1=(1-3) C
REP G3=(0-3) S
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS 17

STEREO ATTRIBUTES: NONE
L15 3 SEA FILE=REGISTRY SSS FUL L10 OR L11

L17 1 SEA FILE=ZCAPLUS ABB=ON PLU=ON L15

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L17 ANSWER 1 OF 1 ZCAPLUS COPYRIGHT 2004 ACS on STN
2000:535397 Document No. 133:122801 Single component sulfur-based cathodes for lithium and lithium-ion batteries. Pope, John; Buttry, Dan; White, Shannon; Corcoran, Robert (Blue Sky Batteries, Inc., USA). PCT Int. Appl. WO 2000045451 A1 20000803, 48 pp. DESIGNATED STATES: W: JP, US; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US2445 20000131. PRIORITY: US 1999-PV118068 19990201.

AB The cathode materials of concern are the conducting polymer or backbone and the redox active species or sulfur species. The selection of the materials is based on the characteristics of the materials relating to the other components of the batteries and to each other. The present invention also pertains to the resultant cathode materials, particularly a selected cathode material of a single component sulfur-based conducting polymer with the sulfur species covalently linked to the conducting polymer, and most particularly a thiophene based polymer with covalently linked sulfur species. The conducting polymers have been covalently-derivatized with sulfides and/or sulfide-containing groups as battery cathode materials. The present invention also pertains to a battery employing the selection method and resultant cathode materials.

IT **285560-67-0P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(single component sulfur-based cathodes for lithium and lithium-ion batteries)
RN 285560-67-0 ZCAPLUS
CN 3,8-Epidithio-2H,7H-thieno[3,4-b][1,4,8,9]dioxadithiacyclododecin, 3,4,8,9-tetrahydro-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 285560-66-9
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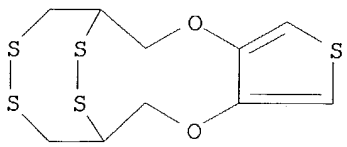
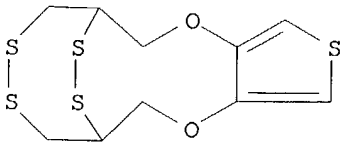


IT **285560-66-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(single component sulfur-based cathodes for lithium and lithium-ion batteries)
RN 285560-66-9 ZCAPLUS
CN 3,8-Epidithio-2H,7H-thieno[3,4-b][1,4,8,9]dioxadithiacyclododecin, 3,4,8,9-tetrahydro- (9CI) (CA INDEX NAME)



IC ICM H01M004-60
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38
IT 285560-65-8P **285560-67-0P**
RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(single component sulfur-based cathodes for lithium and lithium-ion batteries)
IT **285560-66-9P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(single component sulfur-based cathodes for lithium and lithium-ion batteries)

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